Agricultural Moisture Situation Update
April 17, 2024

Synopsis

Since the last report (April 7, 2024), further moisture has fallen across many areas of the province, but unfortunately not everywhere (**Map 1**). Immediate moisture is still needed desperately across much of the North East, Central Peace Region and through parts of the North West.

Over the past 10-days, parts of southern Alberta received an additional 10-15 mm of moisture, and some areas in the mountains and foothills saw upwards of 30 mm. Notably many of the northern forested areas received 5 to 15 mm, but coverage was sporadic and not all areas received moisture.

For those areas generally north of the TransCanada Highway, April is still on average, a dry month and the further north one is, the later the wet season tends to arrive. For the Peace Region, usually the May long weekend marks the start of wetter weather, in a “normal” year.

Recent Precipitation Trends

Over the past 30-days most lands in the province, lying south of Red Deer have been trending from near to well above normal for precipitation accumulations during this time of year (**Map 2**). In fact some lands north of Lethbridge see the last 30-day period, this wet on average less than once in 50-years. However, this is typically relatively dry time of year. Maximum recorded amounts in these “wet” areas range from 50 to 60 mm (**Map 3**), which may be enough to curtail field operations in the immediate future. As a result, some producers will be hoping for a brief dry spell to get on the land and put seed in the ground, ahead of May rains should they be plentiful this year.

Significantly most of the North East and Peace Regions are still in a below normal moisture pattern, a condition that has been dominant since at least the fall. These areas had very little snow coverage this spring and emerged dry from winters grip. Snow melt runoff is a very important source of surface water for streams, lakes, rivers, dugouts wetlands, etc and it simply did not occur. In the absence of early rains pastures, winter wheat, and native vegetation also rely on snow melt moisture as they break dormancy. Moisture will be needed very soon in these areas. That being said, usually ample rains in May and June result in wide spread runoff and swell rivers, so there is still time to see surface water supplies rebound if the late spring and early summer rains come like they usually do.

180-day Precipitation Accumulations

Looking back over the past 180-days, most of southern Alberta and the western portions of the Central Region have been experiencing at least near normal moisture and some localized areas are approaching once in 6 to 12 year highs (**Map 4**). In sharp contrast, large parts of the north-half of the province are facing at least once in 50 year lows. Many of these lands have seen less than 40 mm over the past 6 months (**Map 5**).

Perspective

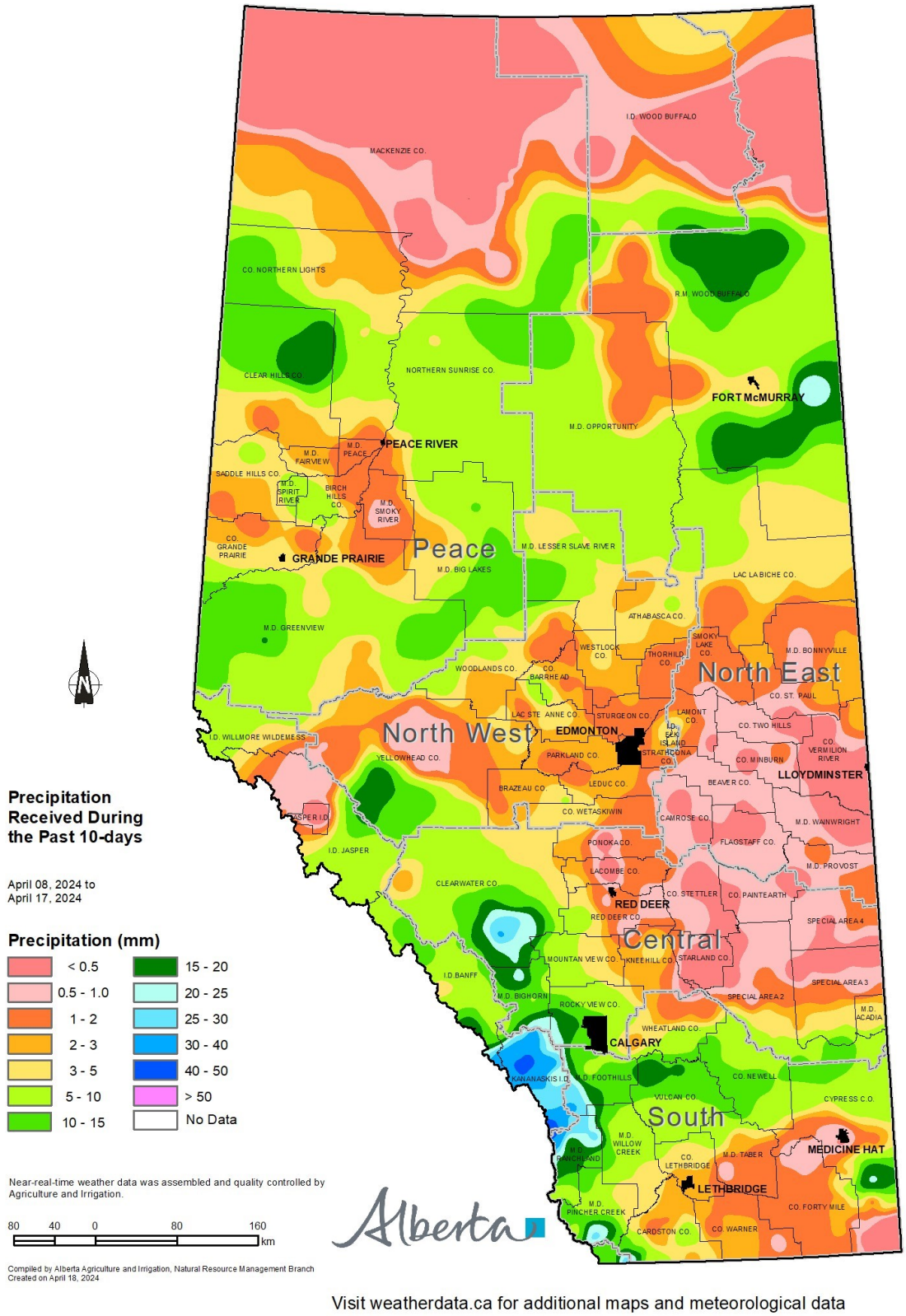
While we have seen a marked turn around in moisture conditions across the southern parts of the province, the north remains very dry. However is important to remember that in 2023, large parts of the North West and the extreme southern portions of the Peace Region and a sliver of the North East Region received ample moisture throughout the growing season, (**Map 6**). Many of these areas received more than 400 mm through June July and August (**Map 7**). This has likely had some carry over and this is not reflected in the maps (1 -5). What this carry over effect will be this spring remains to be seen, but it is worth mentioning given the dire situation depicted in **Maps 4** and **5**.

Looking back over the past 12-years most of southern Alberta has been in a relatively dry state since at least 2017 and a small area north of Lethbridge has been dry since 2013 (**Map 8**). Furthermore, it’s worth noting that there have been no abundantly wet years across the south, with 2014 and 2016 showing as perhaps the last moderately wet years. Province wide, 2016 was the last wide spread wet year. With several years of dry conditions prevailing across many areas we are long due a wet cycle. Wet years are very important for replenishing deep moisture reserves and critical for keeping the land more resilient to drought.

Head over the Climate and Atlas Maps hosted on the Alberta Climate Information Service and you will find a complete series of these maps that go back to 1901. Select the **Precipitation** folder and navigate to **Historical Summaries 1901 to Current.** Here you will find that the first-half of the 20th century was indeed drier that what we have been experiencing over the past two decades. The period from the

1950’s to the late 1990’s appears to have been unusually wet and may have colored our perceptions as to what “normal” for Alberta is.

Map 1



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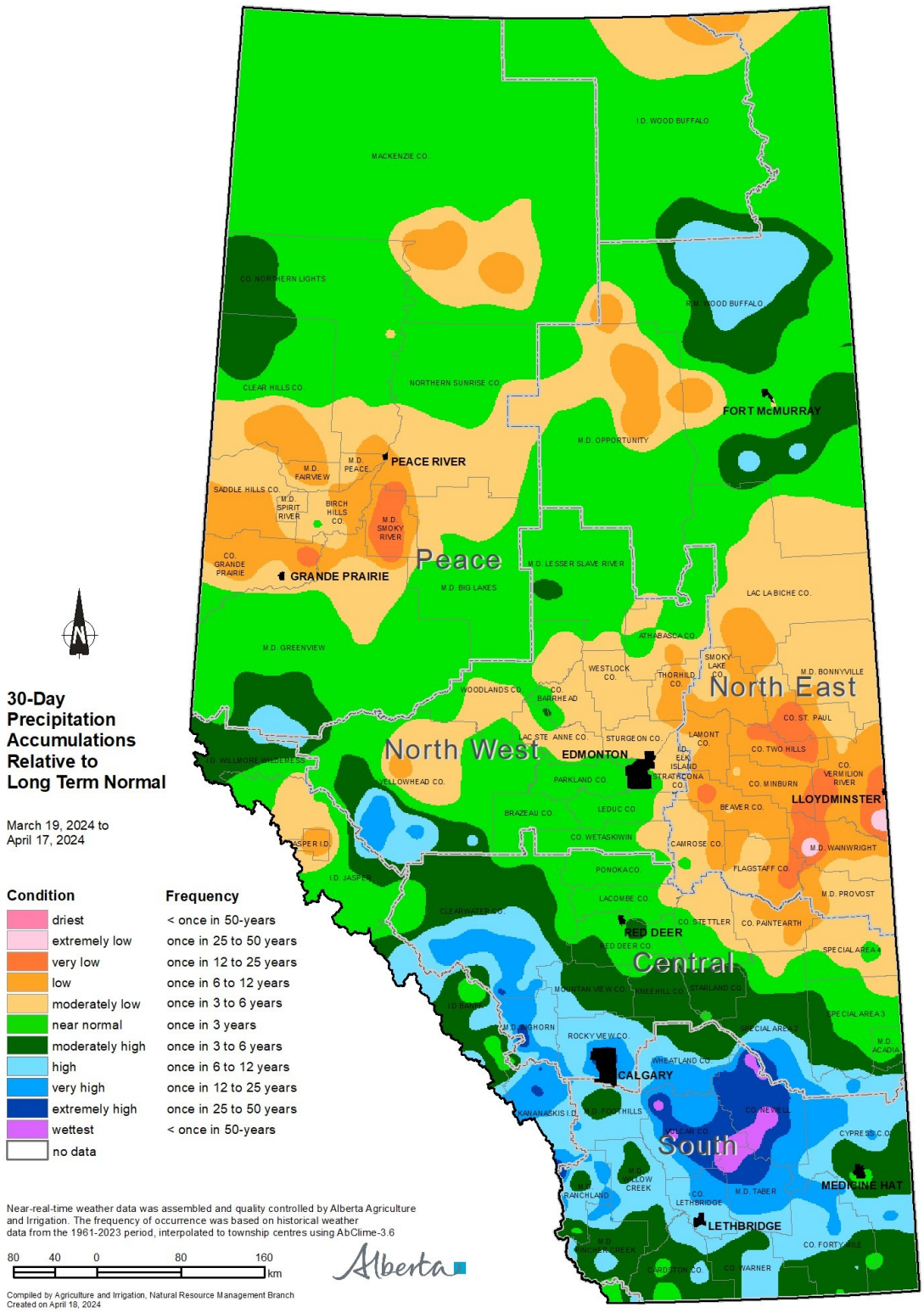
https://open.alberta.ca/publications/moisture-situation-update

Map 2



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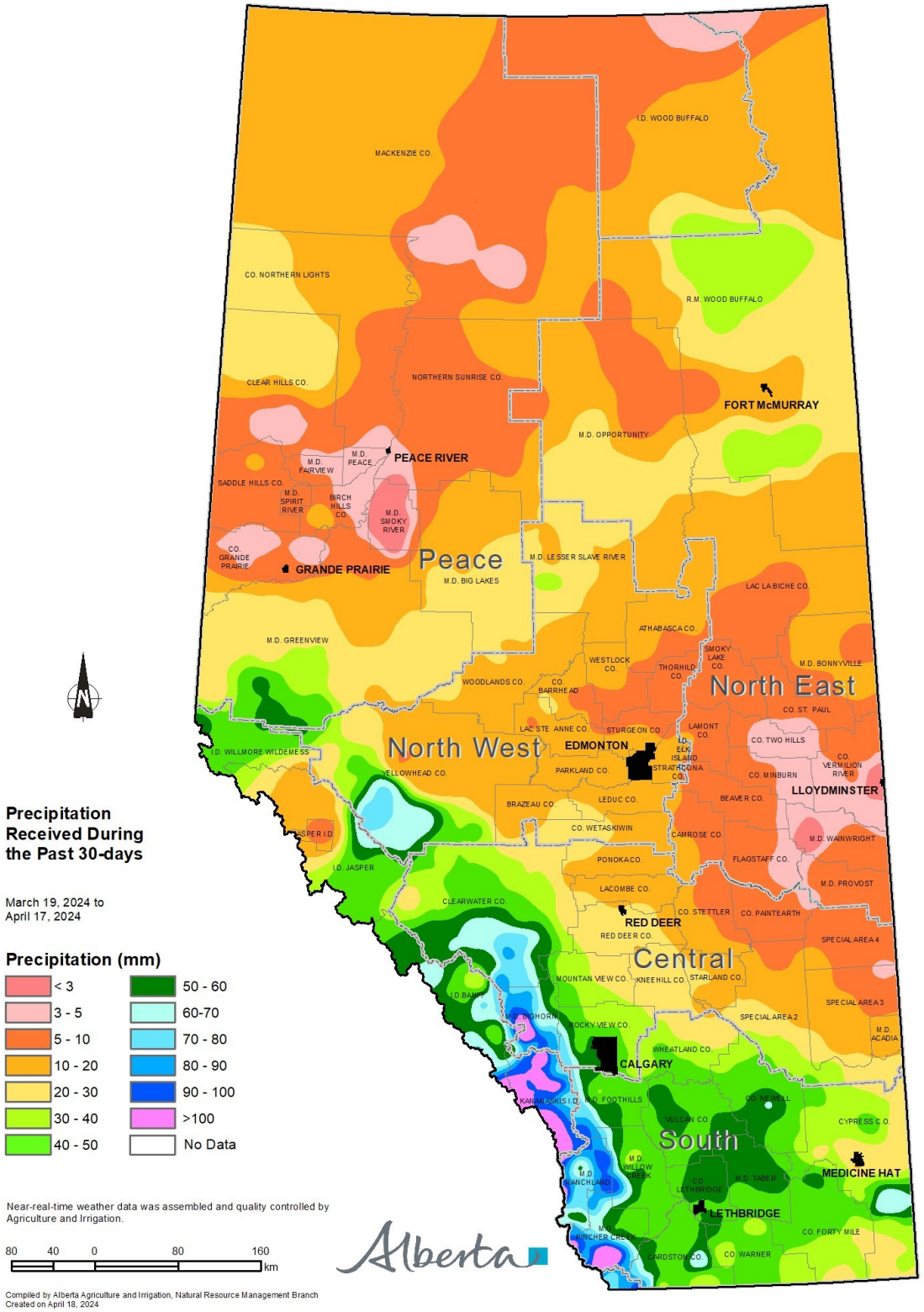
Map 3



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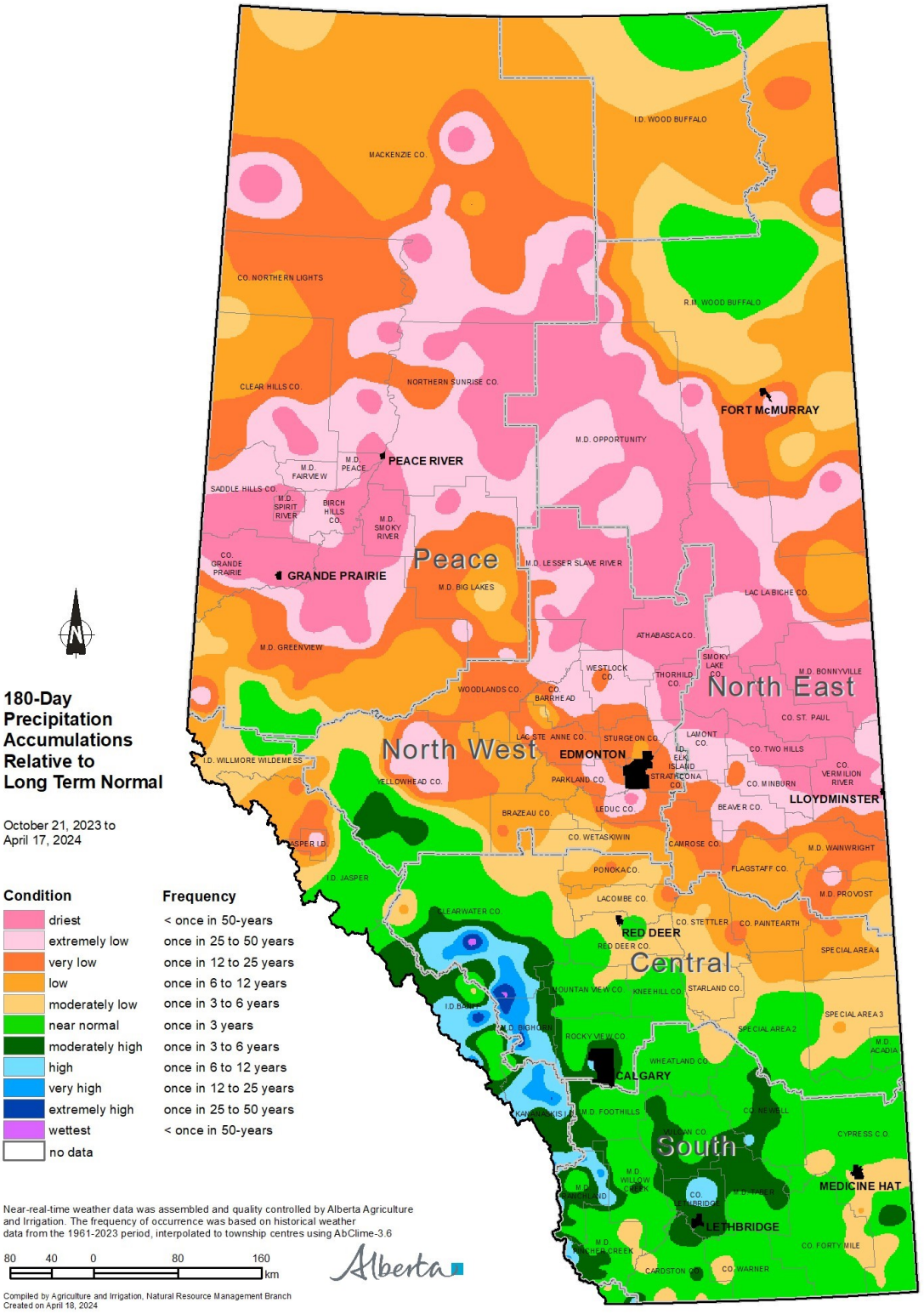
Map 4



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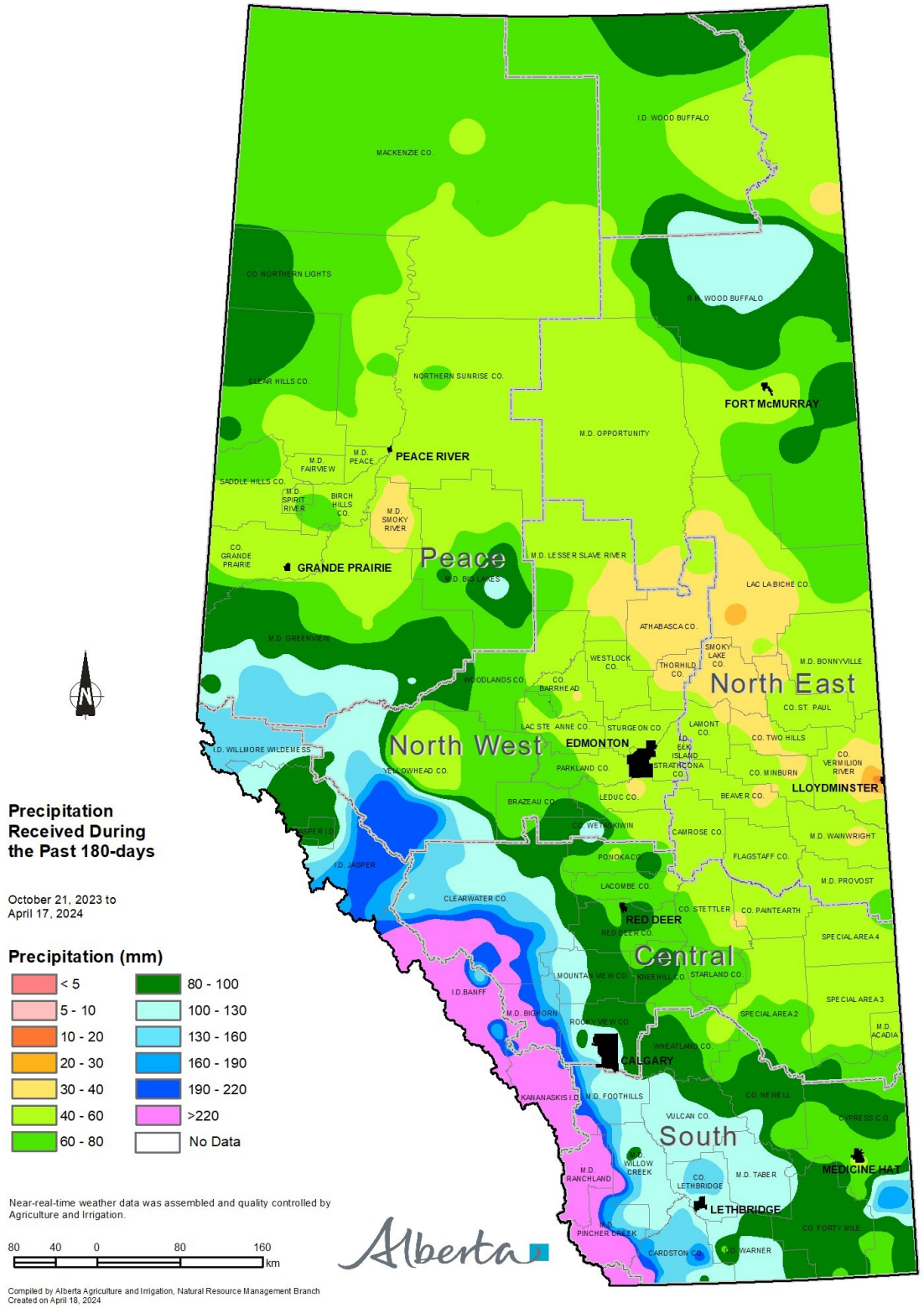
Map 5



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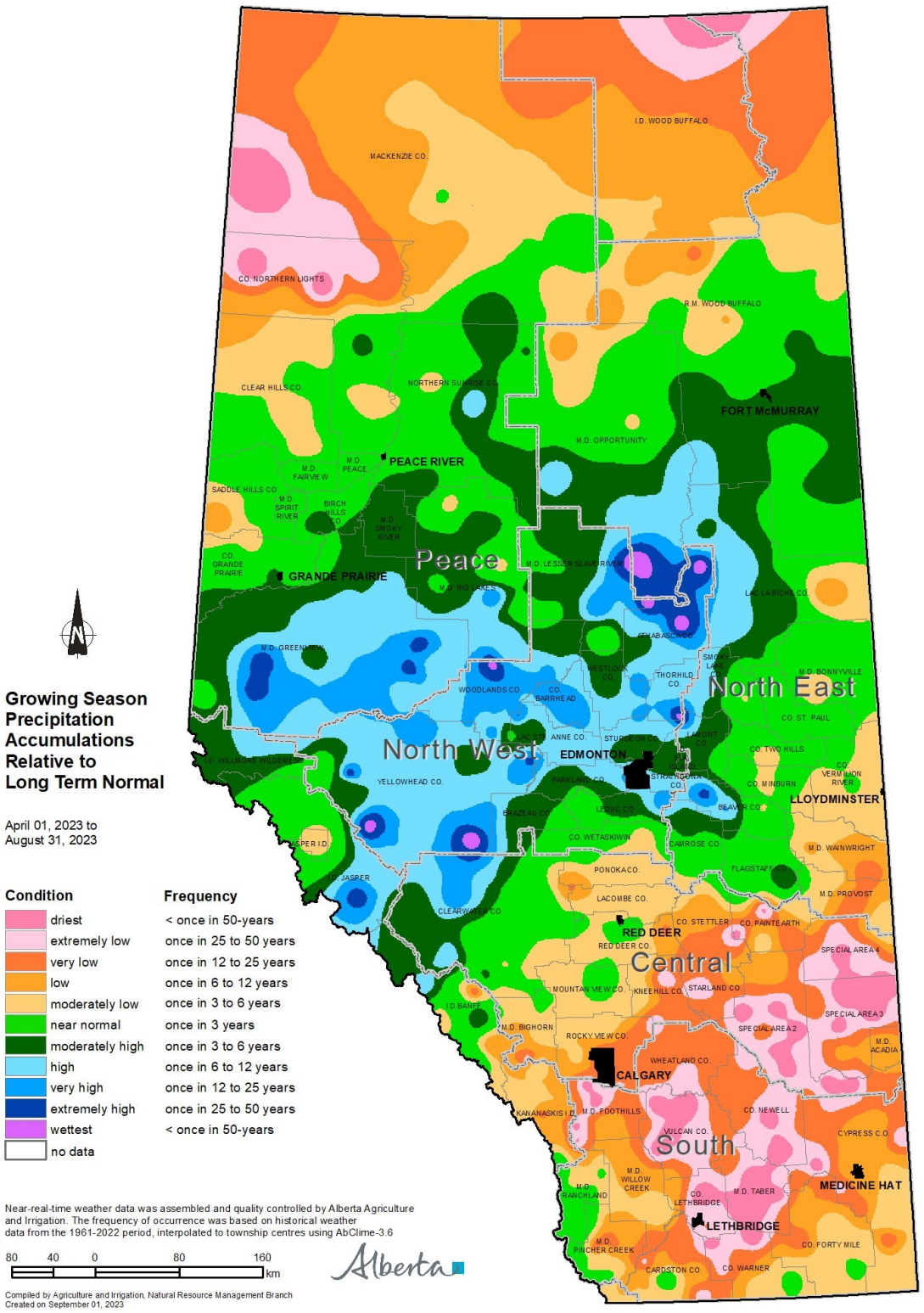
Map 6



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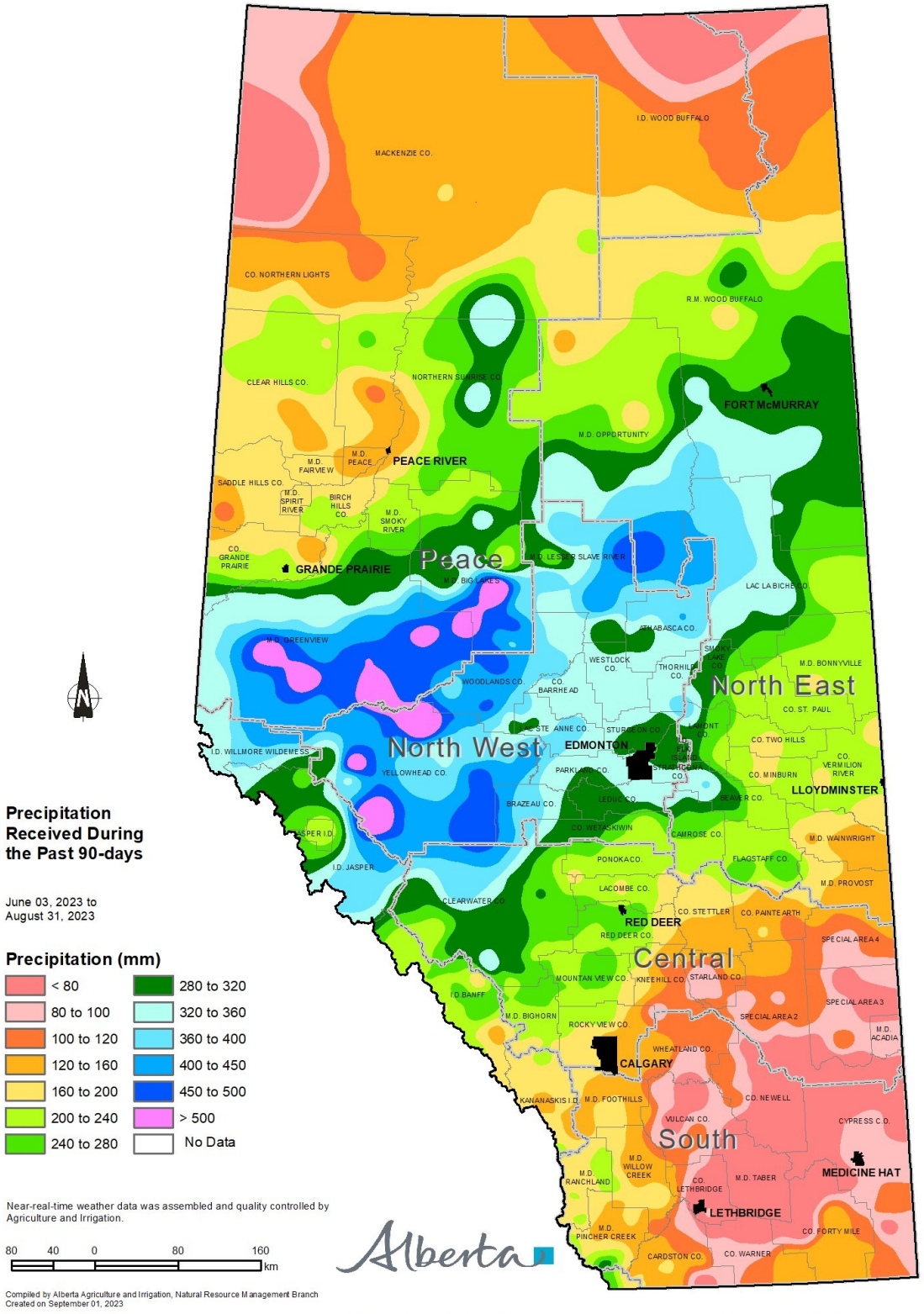
Map 7



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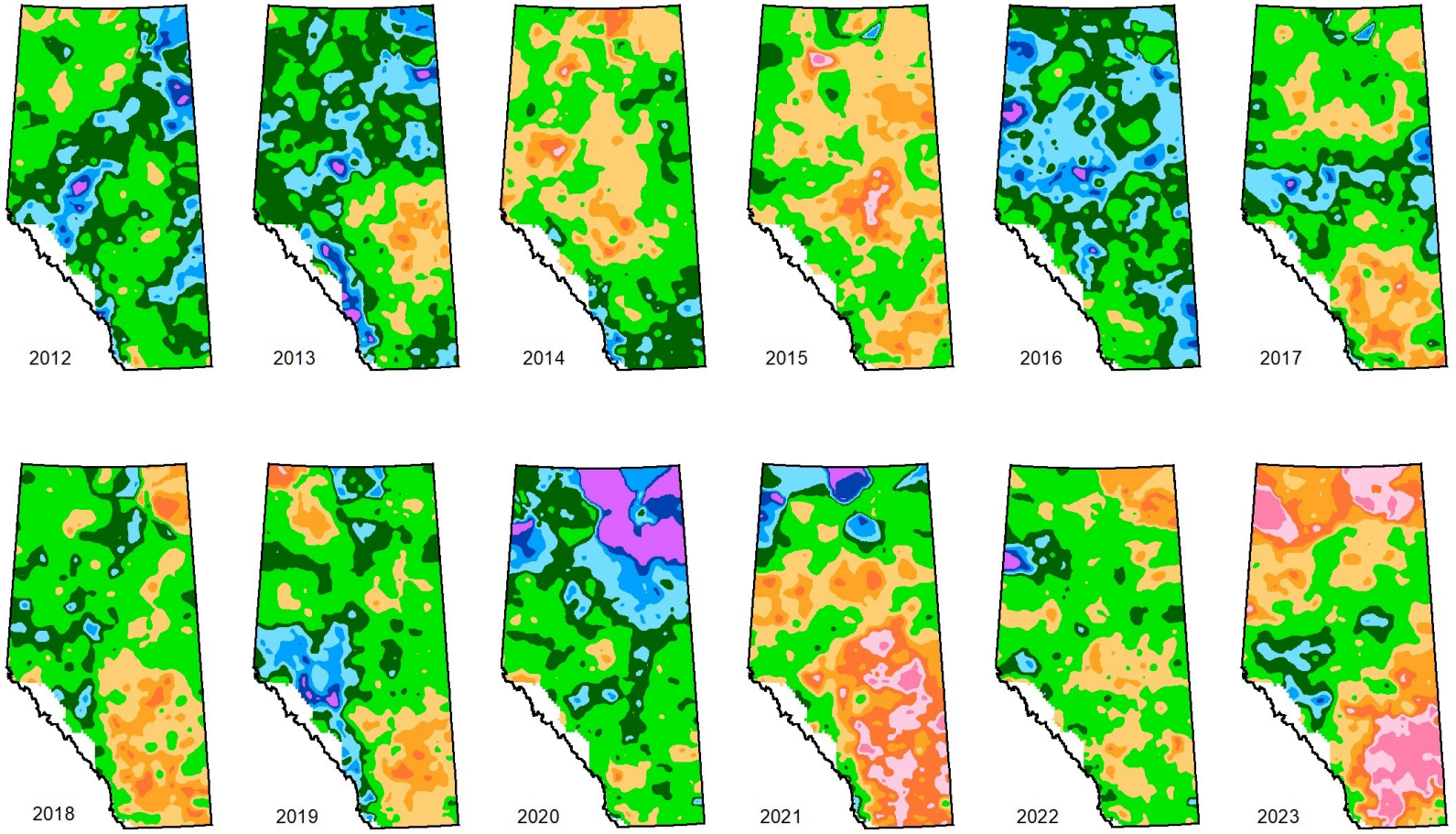
Map 8



Yearly
Precipitation Accumulations
Relative to Long Term Normal

Years 2012 to 2023

The frequency of occurrence was calculated using historical weather data from the 1901-2023 period, interpolated to township centres using AbClime-3.6.

Compiled by Agriculture and Irrigation, Natural Resource Management Branch
Created on April 18, 2024

Condition	Frequency
driest	< once in 50-years
extremely low	once in 25 to 50 years
very low	once in 12 to 25 years
low	once in 6 to 12 years
moderately low	once in 3 to 6 years
near normal	once in 3 years
moderately high	once in 3 to 6 years
high	once in 6 to 12 years
very high	once in 12 to 25 years
extremely high	once in 25 to 50 years
wettest	< once in 50-years
no data	

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